

20. Infant mortality In Appalachia

Infant mortality, the number of infants born alive who die prior to their first birthday, is an important indicator of the overall health and socioeconomic condition of a population. Infant mortality reflects the quality, distribution, and effectiveness of both socioeconomic and medical care systems. Aggregated rates of infant mortality may be related to average income levels in an area and/or the income distribution within the area as well as availability and access to health services. County-level comparisons of rates of infant mortality may provide important clues to underlying causes of poor overall health at the local level, including socioeconomic conditions and health care access limitations. Additionally, behaviors, lifestyles and conditions that affect birth outcomes such as poor nutrition, smoking, substance abuse, lack of prenatal care, medical problems and illness, contribute to high rates of infant mortality. County-level analyses of infant mortality rates may aid in revealing locally specific issues which will enable targeted interventions aimed at reducing high rates of infant mortality.

The infant mortality data for this analysis were extracted from the Area Resource File and represent five-year averages over the period 1993-1997. The infant mortality rates were calculated using the following formula:

5-Yr Infant Mortality Rate = (5-Yr Infant Deaths < 1 Year * 1000/ 5-Year Live Births)

County level maps of infant mortality rates, expressed as deaths per 1,000 live births, are presented for white and non-white populations. Non-white populations have historically had much higher rates of infant mortality in this country. The

distribution of infant mortality rates for each population has been divided into quartiles. In addition, we have identified both low outliers and high outliers. Outliers are counties that had statistically unusually low or high rates relative to the majority of counties. Low outliers were identified as counties with mortality rates lower than the 25th percentile minus 1.5 times the interquartile range (25th-75th percentile) and high outliers were identified as counties with mortality rates higher than the 75th percentile plus 1.5 times the interquartile range.

County-Level Infant Mortality

County level infant mortality rates for Appalachian counties are presented on page 121. A clear disparity in the level of infant mortality rates between white and non-white populations is made clear by examining the two distributions. Infant mortality rates for the white population range from 1.6 to 17.1 deaths per 1,000 live births. In contrast, infant mortality rates for non-white populations range from 2.3 to 500.0 deaths per 1,000 live births.

The maps presented on page 121 also reveal a high level of geographic variability in infant mortality rates for both the white and non-white populations. In both cases, a significant number of counties, designated as high outliers (unusually high values in each distribution), are present although they appear distributed throughout the region. In general, both high outlier and fourth-quartile values of infant mortality for the white population appear in pockets of counties in the central and southern Appalachian counties. In general, relatively low infant mortality rates appear to occur in less rural areas. In contrast, high outlier and fourth-quartiles counties appear to be more prominent in the north and central

Appalachian counties for the non-white population and appear to be less clearly associated with rural areas.

Infant Mortality, 5-Year Average, 1993-1997

